PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference PF040026	FOR FURTHER ACTION	See Form PCT/IPEA/416

International application No. PCT/EP2005/050693	International filing date *(day/month/year)* 16.02.2005	Priority date *(day/month/year)* 16.02.2004

International Patent Classification (IPC) or national classification and IPC

INV. H04L12/56

Applicant

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1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 7 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

   a. ☒ *sent to the applicant and to the International Bureau)* a total of 4 sheets, as follows:

   ☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

   ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

   b. ☐ *(sent to the International Bureau only)* a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

   ☒ Box No. I   Basis of the report

   ☐ Box No. II   Priority

   ☐ Box No. III   Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

   ☐ Box No. IV   Lack of unity of invention

   ☒ Box No. V   Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

   ☐ Box No. VI   Certain documents cited

   ☐ Box No. VII   Certain defects in the international application

   ☐ Box No. VIII   Certain observations on the international application

Date of submission of the demand 16.12.2005	Date of completion of this report 17.05.2006

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Box No. I   Basis of the report

1. With regard to the **language**, this report is based on

   ☒   the international application in the language in which it was filed

   ☐   a translation of the international application into , which is the language
        of a translation furnished for the purposes of:
     ☐ international search (under Rules 12.3(a) and 23.1(b))
     ☐ publication of the international application (under Rule 12.4(a))
     ☐ international preliminary examination (under Rules 55.2(a) and/or 55.3(a))

2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

   Description, Pages

   1-11   as originally filed

   Claims, Numbers

   1-10   filed with telefax on 16.01.2006

   Drawings, Sheets

   1/13-6/13, 8/13, 10/13-13/13   as originally filed
   7/13, 9/13   filed with telefax on 16.01.2006

   ☐   a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐   The amendments have resulted in the cancellation of:
     ☐ the description, pages
     ☐ the claims, Nos.
     ☐ the drawings, sheets/figs
     ☐ the sequence listing *(specify)*:
     ☐ any table(s) related to sequence listing *(specify)*:

4. ☐   This report has been established as if (some of) the amendments annexed to this report and listed below
   had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the
   Supplemental Box (Rule 70.2(c)).
     ☐ the description, pages
     ☐ the claims, Nos.
     ☐ the drawings, sheets/figs
     ☐ the sequence listing *(specify)*:
     ☐ any table(s) related to sequence listing *(specify)*:

   *   *If item 4 applies, some or all of these sheets may be marked "superseded."*

Box No. V   Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

    Novelty (N)   Yes: Claims   1-10

                                        No: Claims

    Inventive step (IS)   Yes: Claims

                                        No: Claims   1-10

    Industrial applicability (IA)   Yes: Claims   1-10

                                        No: Claims

2. Citations and explanations (Rule 70.7):

    see separate sheet

Re Item V.

1. Reference is made to the following document:

    D1:   EP 1 102 430 A1

2. The present application does not meet the criteria of **Article 33(1) PCT,** because the subject-matter of **Claim 1** does not involve an inventive step in the sense of **Article 33(3) PCT.**

    Document **D1** (see in particular paragraphs [0019]-[0041], figs. 1,2), which is considered to represent the most relevant state of the art, discloses, according to the essential features of **Claim 1** (applying the terminology of present **Claim 1** and the references to **D1**), a method for inserting a new device in a community of devices (paragraph [0019], fig. 1) wherein:

    -   each device of the community (fig.5, device "S") is able to receive (from device "P") insertion requests from at least one new device (paragraph [0044]); and

    -   to forward these insertion requests (paragraphs [0045]-[0046]) to a device (node "W", fig. 5) of the community to join the community (see also, paragraphs [0024], [0031]-[0036]).

    The subject-matter of **Claim 1** differs from the disclosure of **D1** in that:

    -   each device of the community is able to **store** insertion requests received from at least one new device; and

    -   to forward these insertion requests to a device chosen **by a user** of the community **for authorizing the insertion of the new device in the community.**

    The objective technical problem solved by these features would be considered by the skilled person as to allow a user to choose the device of the community used to authorize the insertion of a new device.

In the adhoc network disclosed in **D1,** the server node "A" manages the affiliation of a new device "L" to a trust group (202-205, or 201, fig. 3) by manually requesting this device "L" to create a trust relation with "A" and then, distributing the trust certificate to all other trusted devices of groups 202-205 (paragraphs [0036]-[0040]). Therefore, although **D1** does not explicitly disclose that each node of the community stores an insertion request received by a new device, "storing" of informations represents an obvious intermediate step in the of electronic data information processing, as performed in the method taught (paragraph [0018]) by **D1**: *"the ad hoc network comprises nodes constituting e.g., laptops and mobile phones, each node comprising a receiver and a computer, the computer comprising a processor and a memory".*

Moreover, the node "A" disclosed by **D1** *"is decided to act as a server node",* (paragraph [0031]) and this decision can be taken as a normal operating procedure by the user of the trust group of devices (paragraph [0018]).

On the other hand, the claimed feature *"forwarding insertion requests to a device chosen by a user of the community for authorizing the insertion of the new device in the community"* can be considered implicitly disclosed in **D1** at paragraphs [0038]: if the trust check is successfully performed the requesting node is granted trust, hence the new device is authorized, in fact in **D1** it is disclosed that *"the nodes (N-W) are authorised to delegate trust relations to other nodes within the network that it trusts"* (paragraph [0042]), further in paragraphs [0044]-[0046] it is clear that the affiliation request sent by node "P", of fig. 5 is received by "S" and forwarded to "W", which trusts "P" and can authorize the affiliation.

Therefore, the subject-matter of **Claim 1** does therefore not involve an inventive step **(Article 33(3) PCT).**

3.   The same considerations as made in respect of independent **Claim 1** are also valid for independent **Claims 5 and 9** which contain a corresponding feature combination as **Claim 1** in terms of a claim relating to a similar method and apparatus.

Therefore the subject-matter of **Claim 5** does not involve an inventive step and does not satisfy the criterion set forth in **Article 33(3) PCT.**

4.   The additional features defined in **dependent Claims 2 to 4, 7, 8 and 10** do not add anything of inventive significance to **Claims 1, 5 and 9** respectively because they relate to minor details and are either directly derivable from the cited prior art document **D1**, or represent standard practice.

Therefore, the subject-matter of the dependent **Claims 2 to 4** does not involve an inventive step **(Article 33(3) PCT)**.

Certain observations on the international application (clarity)

5.   The present application does not meet the requirements of **Article 6 PCT** because **the claims are not clear and concise.**

Although **Claims 1 and 5** have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter and to differ from each other only in respect of the terminology used for the features of that subject-matter. The aforementioned claims therefore lack conciseness.

Hence, **Claims 1 and 5** do not meet the requirements of **Article 6 PCT.**

In view of **Rule 6.4 PCT, a single independent claim in the method category** shall be based on **Claim 1 or 5**, followed by dependent claims covering features which are merely optional **(Rule 6.4 PCT).**

Certain defects in the international application (form or content)

6.   The attention of the Applicant is drawn to the further deficiencies:

1.   Independent **Claims 1 and 5** have not been drafted in the two-part form, as recommended by **Rule 6.3(b) PCT.**

d.   Description pages have not been adapted to the amended claims as required by **Rule 5.1(a)(iii) PCT.**

CLAIMS

1. Method for inserting a new device (*x*) in a community of devices
5   wherein each device of the community is able to store insertion requests received from at least one new device and to forward these insertion requests to a device (*b*), chosen by a user (3) of the community for performing at least one user action for authorizing the insertion of the new device in the community.

10   2. Method according to claim 1, wherein insertion requests contain a provable identity of the new device.

3. Method according to claim 2, wherein the device having received an insertion request from a new device is able to forward the provable identity of
15   this new device to the device chosen by the user further to the receipt of a message ("seek_pendings") from said chosen device (*b*).

4. Method according to claim 3, wherein the device having received an insertion request from a new device is further able to broadcast the provable
20   identity of the chosen device (*b*) to the new device (*x*).

5. Method for inserting a new device (*x*) in a community of devices comprising the steps of:
     storing (506), by each device (*a*) of the community which receives an
25   insertion request from a new device (*x*), the insertion request in a memory (12) of said device;
     forwarding (509), by each device (*a*) of the community which receives a request from a device (*b*) chosen by a user (3) of the community, the at least one stored insertion request to said user chosen device (*b*);
30   wherein said user chosen device (*b*) is chosen by the user for performing at least one user action for authorizing the insertion of the new device in the community.

6. Method according to claim 5, further comprising a step of:
35   selecting (701), using the user interface (15) of the user chosen device (*b*), one of the insertion requests received by the user chosen device, to authorize the device (*x*) having emitted said insertion request to be inserted in the community.

7. Method according to claim 6, further comprising a step of:

sending (703), from said user chosen device (*b*), an insertion request to the new device (*x*) inserted in the community to request that said user chosen device (*b*) enters the new device's community.

5

8. Method according to claim 7, wherein said insertion request from said user chosen device is transmitted to the new device (*x*) inserted in the community through the device (*a*) of the community having first forwarded the insertion request from the new device (*x*) to the user chosen device (*b*) in case

10   said user chosen device (*b*) cannot directly communicate with the new device (*x*).

9. Device adapted to belong to a community of networked devices, characterized in that said device comprises:

15   a first memory (12) for storing at least one insertion request received from a new device requesting to be inserted in the community;

a network interface (13) for sending the at least one insertion request stored in said first memory (12) upon request from a device (*b*) chosen by a user (3) of the community for performing at least one user action for authorizing

20   the insertion of the new device in the community;

a second memory (14) for storing insertion requests sent by other devices of the community when said device is the user chosen device.

10. Device according to claim 9, further comprising:

25   a user interface (15) allowing a user to select one of the insertion requests received by the user chosen device, to authorize the device (*x*) having emitted said insertion request to be inserted in the community when said device is the user chosen device.
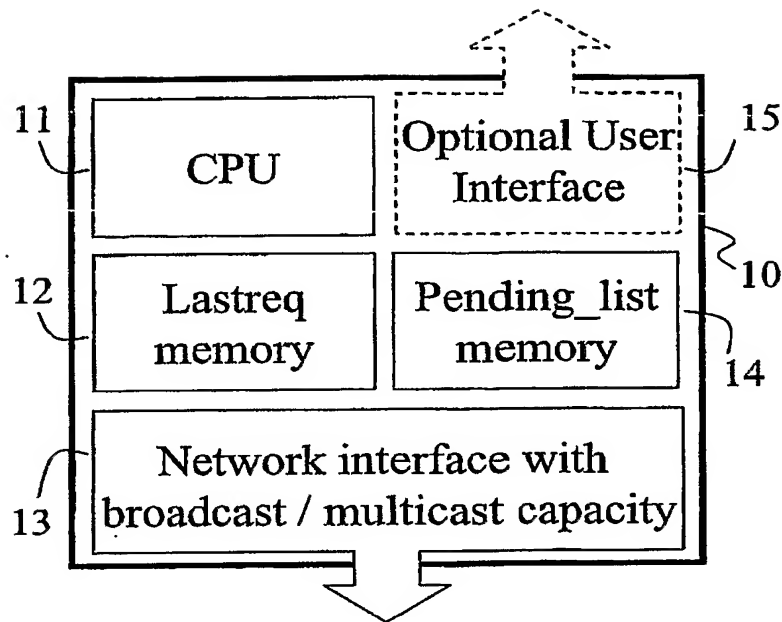
30

7/13

Fig. 7

List of pending insertion requests

Device identifier 1) 5C34AA923FFFCEC34278
Device identifier 2) DDA478457A0A0A056932
Device identifier 3) 8B54299C000003B9388E

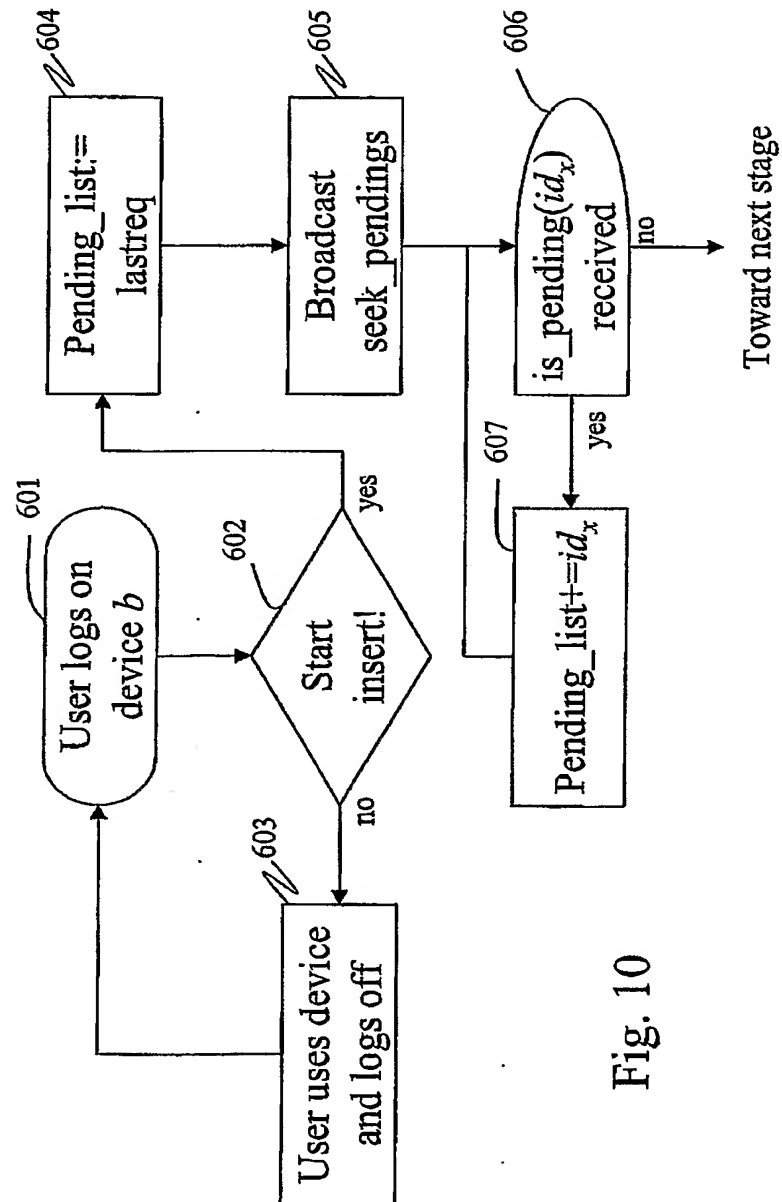Please, select the device you want to insert (1-3) : ___

Fig. 8

9/13

Fig. 10